STATE OF RHODE ISLAND

AND PROVIDENCE PLANTATIONS

Narragansett Electric Company	)	Docket No. 3689

DIRECT TESTIMONY AND EXHIBITS OF

JOHN HOWAT

(Revised as of September 15, 2005)

SUBMITTED ON BEHALF OF THE
THE GEORGE WILEY CENTER

September 14, 2005

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is John Howat. My business address is 77 Summer Street, 10th Floor, Boston Massachusetts.

Q. FOR WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the George Wiley Center ("Wiley Center").

Q. WHAT ARE THE PURPOSES OF YOUR TESTIMONY?

A. The purposes of my testimony are to (1) comment on the impacts on low-income ratepayers from the proposed increase in standard offer service rates of Narragansett Electric Company, (2) recommend means of mitigating those impacts, and (3) provide long-term recommendations regarding the procurement of Standard Offer Service.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS.

A. I am Senior Energy Policy Analyst at National Consumer Law Center in Boston, Massachusetts. I have been professionally involved with energy program and policy issues since 1981. At the National Consumer Law Center over the past six years, I have managed a range of regulatory, legislative and advocacy projects across the country in support of low-income consumers' access to affordable utility and energy related services. I have been involved with the design and implementation of low-income energy affordability and efficiency programs and outreach efforts, rate design, issues related to metering and billing, development of load profiles, energy burden analysis and related demographic analysis, and low-income regulatory consumer protection. In addition to current work with the George Wiley Center, I work or have worked on behalf of community-based

organizations or their associations in Massachusetts, Arkansas, Arizona, Louisiana, Mississippi, New Jersey, Pennsylvania, Texas and Washington State. I also work or have worked on low-income energy matters on behalf of the National AARP and state AARP chapters in Louisiana and Kansas. I work or have worked under contract with the U.S. Department of Health and Human Services, Oak Ridge National Laboratories, the Attorney General in Nevada and the National Energy Assistance Directors' Association. I have presented testimony before utility regulatory agencies in Massachusetts, New Jersey, Rhode Island, Vermont, and Louisiana. For the past five years, I have sat on the Board of Directors of the National Low Income Energy Consortium, and am a regular presenter at conferences of National Community Action Foundation, National Low Income Energy Consortium, National Energy Assistance Directors Association, National Association of Regulatory Utility Commissions and National Association of State Utility Consumer Advocates.

I served as Research Director of The Massachusetts Joint Legislative Committee on Energy, responsible for the development of new energy efficiency programs and low-income energy assistance budgetary matters. I served as Economist with the Electric Power Division of the Massachusetts Department of Telecommunications and Energy, responsible for analysis of electric industry restructuring proposals; and as Director of the Association of Massachusetts Local Energy Officials. I have a Master's Degree from Tufts University's Graduate Department of Urban and Environmental Policy and Bachelor of Arts Degree from The Evergreen State College.

Q. BRIEFLY DESCRIBE THE NARRAGANSETT ELECTRIC COMPANY'S PROPOSAL.

A. Narragansett Electric Company ("Narragansett" or "the Company") has proposed to increase its standard offer rate from 6.7 cents per kilowatt hour to 8.2 cents per kilowatt hour,[1] an increase of approximately 22.4%. The Company indicates that the proposed increase in standard offer service would represent a 12.4% increase on the bill of a typical residential customer using 500 kWh per month.[2]

Q. DESCRIBE THE IMPACT OF THE COMPANY'S PROPOSED STANDARD OFFER SERVICE RATE INCREASE ON LOW INCOME CUSTOMERS.

A. Increasing electric bills by 12% or more at this time will exacerbate what is already a severe crisis in home energy affordability faced by low income[3] households. Absent interventions such as a meaningful payment assistance and arrearage management, unaffordable utility bills result in increased customer arrearages and service disconnections. Loss of essential household utility service can have catastrophic effects on health and safety and the ability to participate effectively in society. Illness, homelessness, poor academic performance, and even death can result from loss of basic utility service. For those low-income households that are able to retain utility service, unaffordable utility bills too often result in the sacrifice of other necessary goods and services. Many low-income

[1] Testimony of Ronald T. Gerwatowski at 3.
[2] Id.
[3] For purposes of this testimony, the term "low-income household" refers to a household that is income-eligible to receive benefits through the federal Low Income Home Energy Assistance Program ("LIHEAP").

families pay about three times the fraction of their incomes on home energy as to median income families. Thus, it is not surprising that results of a recent national study conducted by the National Energy Assistance Directors Association found that a high proportion of LIHEAP recipients take drastic actions to pay their energy bills, including reduction of expenditures for other household necessities or use of their kitchen stove for heat. In addition, the study of LIHEAP recipients found that 38 percent went without medical or dental care and 30 percent went without filling a prescription or reduced a prescribed dosage of medicine in attempting to pay their energy bills.[4] (The Executive Summary of the study is attached as Exhibit JH-1.)

Household energy costs projected for this heating season in particular will likely cause extreme financial hardship for low-income households. Prices of the state's primary heating fuels, natural gas and fuel oil, were very high before the damage to domestic production and transportation facilities caused by Hurricane Katrina. NYMEX fuel oil futures at the close of August 2003 were $0.82 per gallon. On August 31, 2005 the price was about 2 ½ times greater, $2.05 per gallon. Similarly, NYMEX natural gas futures closed at $4.73 on August 29, 2003. The August 31, 2005 price was nearly tripled, at $11.47.

These futures price increases will result in price shocks for residential consumers. The proposed increase in standard offer electric service proposed by Narragansett will serve to add to unaffordable energy burdens that will be borne by low-income consumers this winter.

[4] National Energy Assistance Directors' Association, "National Energy Assistance Survey Report," April 2004, pp. ES-1, ES-2. www.neada.org/comm/surveys/NEADA_Survey_2004.pdf.

Q. HAS FUNDING FOR LOW INCOME ENERGY PAYMENT ASSISTANCE INCREASED TO OFFSET RECENT PRICE INCREASES?

A. No. In fact, the President has proposed to decrease funding for the primary source of energy payment assistance, LIHEAP. Rhode Island received a LIHEAP allocation of $12.8 million in FY 2005. President Bush's budget would provide $12.2 million for FY 2006. The House of Representatives' budget would provide an allocation of $13.6 million for FY 2006. A final budget for FY 2006 has yet to be adopted by Congress and signed by the President.

In addition to federal assistance, low-income customers may receive discounted electricity rates in Rhode Island. However, the value of these discounts as a proportion of total bills has deteriorated since the adoption of the state's Electric Restructuring Act.

Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING MITIGATION OF LOW INCOME IMPACTS OF THE PROPOSED NARAGANSETT RATE INCREASE?

A. First, there is a need for low income electric bill payment assistance that goes beyond that which is currently offered through the discount rate. The Company's proposed rate increase, if approved, should be accompanied by approval of a targeted discount program that is designed to provide LIHEAP participants with the benefits to lower household electricity burdens to same level paid by low-income customers on tiered discount rates offered by National Grid's New Hampshire affiliate, Granite State Electric Company. In addition, Narragansett's

low income customers should have access to an arrearage management program such as that has been offered by Granite State Electric Company.

Funding for payment assistance and arrearage management programs should come from both federal and nonfederal sources. The Wiley Center recommends that the Commission adopt a non-bypassable volumetric charge on all Narragansett Electric sales to end-use customers.

Q. WHAT ARE YOUR LONG TERM RECOMMENDATTIONS REGARDING PROCUREMENT OF STANDARD OFFER SERVICE?

A. The overall objective of electric industry restructuring was to produce price benefits for all customers. It was hoped that the electric industry restructuring experiment would provide all customers with the range of choices of electricity supply and service providers. However, it has become apparent in Rhode Island as well as other states that have adopted "retail access" that residential customers, particularly low-income residential customers, will not be offered low cost, reliable service from competitive suppliers. Further, there is no evidence that residential customers have even the slightest interest in choosing an alternative electricity supplier. Thus, standard offer service and successor provider of last resort service will likely remain the only viable option available to such customers.

Given the necessity nature of electricity service and the lack of competitive choices for small customers, standard offer service must continue for the long-term to be procured and provided by the incumbent electric distribution company, and should be procured in such manner as to ensure insulation from the price

volatility of the wholesale electric market. The Wiley Center recommends that the Company be authorized and directed to dampen the effects of price volatility by procuring and pricing standard offer service over longer terms. In addition, solicitations for power supply should be "laddered" so as to stagger the expiration of contracts.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

NATIONAL ENERGY ASSISTANCE DIRECTORS' ASSOCIATION

NATIONAL ENERGY ASSISTANCE SURVEY REPORT

EXECUTIVE SUMMARY

FINAL REPORT
April 2004

Contact: Mark Wolfe
NEADA
(202) 237-5199
mlwolfe@neada.org

Executive Summary

The Low-Income Home Energy Assistance Program (LIHEAP) helps low-income households meet their immediate home heating and cooling needs. In FY 2004 LIHEAP will provide close to $2 billion in heating and cooling assistance to more than 4.9 million low-income households throughout the United States. In October 2003, NEADA commissioned Apprise, Inc. to conduct a national survey of choices made by LIHEAP-recipient households when they cannot afford their energy bills. By examining how low-income families manage energy unaffordability, the 2003 NEA survey serves as a complement to other important national surveys such as the Residential Energy Consumption Survey and the Current Population Survey.

Low-income households have energy burdens that far exceed those of higher-income households. LIHEAP-recipient households spent an average of 14 percent of their income on total residential energy bills.[i] This compares to 3 percent for households with income above 150 percent of the poverty level.[ii] Despite these significant residential energy expenses, most low-income households pay their energy bills regularly. But at what cost?

The 2003 NEA survey found that LIHEAP recipients faced life-threatening challenges. In FY 2003:

- 17 percent were unable to use their main source of heat due to discontinued utility service or an inability to pay for fuel; and,
- 8 percent had their electricity shut off due to nonpayment both due in part to unaffordable energy bills.
- 53 percent of renters said that they needed to borrow from a friend or relative to pay their residential energy bill, compared to 38 percent of homeowners.
- 56 percent of renters said that they skipped paying or paid less than the whole residential energy bill, compared to 46 percent of homeowners.

The 2003 NEA survey found that LIHEAP-recipient households across the country face serious hardships in attempting to pay their energy bills. In the past five years:

- 38 percent went without medical or dental care;
- 30 percent went without filling a prescription or taking the full dose of a prescribed medicine;

The 2003 NEA survey found significant differences among LIHEAP recipients based on fuel type and homeownership. In FY 2003: 31 percent of bulk fuel respondents said that they experienced a loss of energy service due to discontinued utility service or an inability to pay for fuel,, compared to 15 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.[iii]

- 72 percent of bulk fuel respondents who were without heat due to inability to pay their energy bill said that LIHEAP helped restore their heat, compared to 49 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.
- 28 percent did not make a rent or mortgage payment;
- 22 percent went without food for at least one day;

- 21 percent believe they became sick because their home was too cold; and,
- 7 percent believe they became sick because their home was too hot

due in part to unaffordable energy bills.

The NEA study presented in this report finds that LIHEAP is essential in helping a large number of low-income Americans meet their energy needs. LIHEAP assistance reduces the percentage of household income spent on total residential energy costs from 14 to 11 percent.[iv] This reduction is achieved through a relatively small average grant of $313 in FY 2003. Despite the small grant, the findings point to very large benefits:

- 88 percent of recipients said that LIHEAP has been very important in helping meet their needs; another 8 percent said it was somewhat important.
- 62 percent of those who lost their heat due to an inability to pay their energy bills said that LIHEAP helped to restore their heat.
- 54 percent of recipients said that they would have kept their home at an unsafe or unhealthy temperature if LIHEAP had not been available.
- 48 percent of recipients said that they would have had their electricity or home heating fuel discontinued if LIHEAP had not been available.

The need for LIHEAP far exceeds the availability of current appropriations. Over 4.6 million households received LIHEAP in 2003, only 13 percent of the over 34.6 million households that had income below the federal maximum LIHEAP standard.[v]

Key findings from the 2003 NEA study can be summarized as follows:

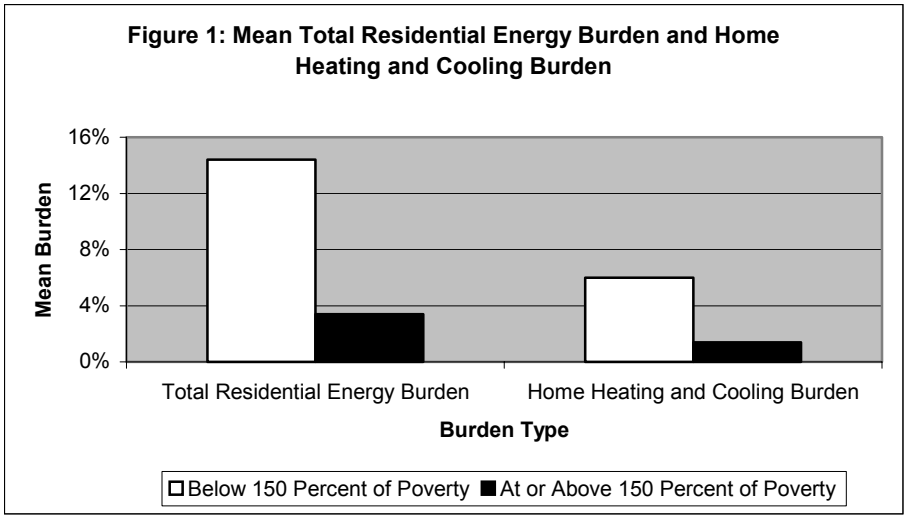
- Low-income households spend an inordinate amount of their household income on residential energy.
- Households that receive LIHEAP face significant hardship in attempting to pay their energy bills.
- LIHEAP makes a significant difference for most recipient households.
- However, LIHEAP still only serves a small fraction of eligible households.

Energy Burden

Energy burden is a statistic that is often used to assess the problems households have in meeting their energy needs. Energy burdens are high for low-income households, both because of their low income and higher relative energy costs. Low-income households have higher energy costs because of old or substandard housing with inefficient heating systems, low levels of insulation, or gaps in the exterior of the home.

According to the 2003 Current Population Survey, 24 million households have incomes below 150 percent of poverty, and the mean annual gross income for those households was $11,897. This compares to a mean annual income of $70,232 for the households at or above 150 percent of poverty.

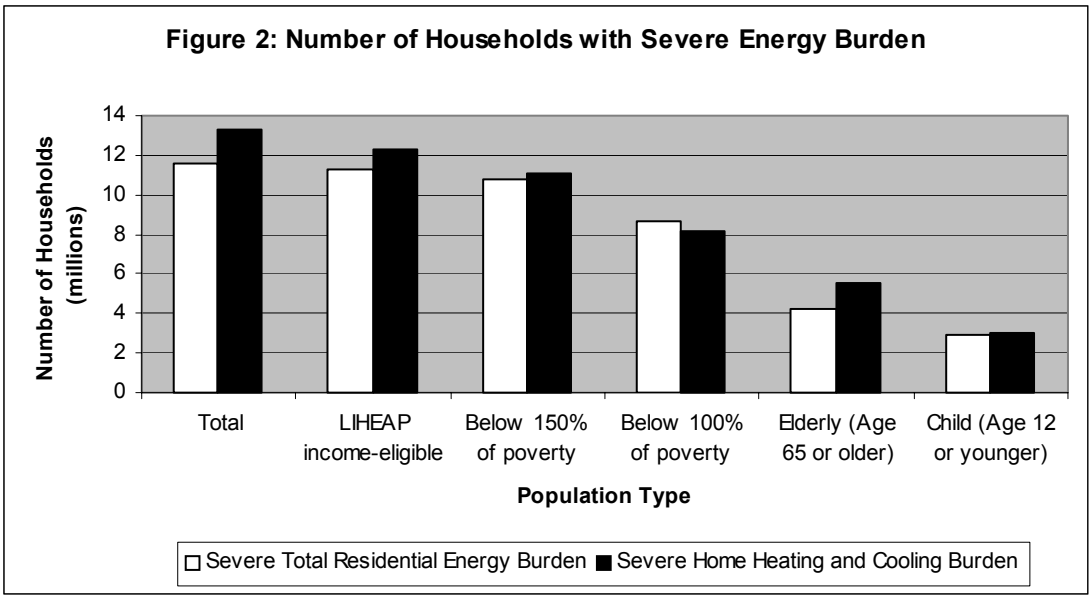
Figure 1 shows that households with income below 150 percent of poverty spend 14 percent of their income on total residential energy, compared to 3 percent for households with income above 150 percent of poverty.[vi] The mean home heating and cooling burden is 6 percent for low-income households, compared to 1 percent for households that are not low-income.[vii]



Source: 2001 Residential Energy Consumption Survey
Total residential energy burden is the total cost of energy used in the home divided by total household income. Home heating and cooling burden is the total cost of home space heating and cooling divided by total household income. The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. As noted in footnote 4, this report focuses on total residential energy costs and not home heating and cooling costs.

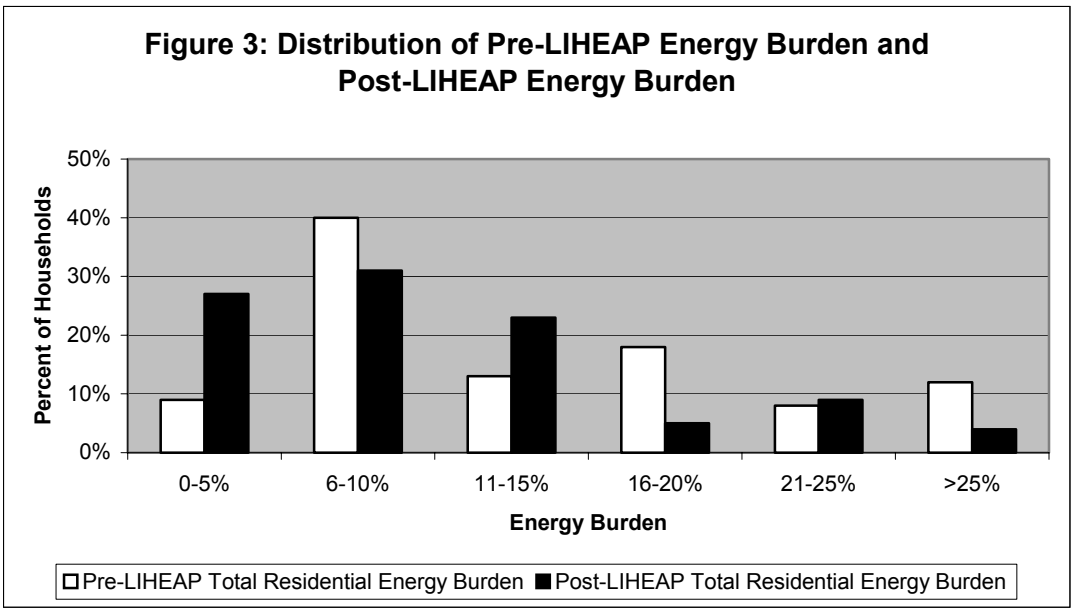
Within this study, severe total residential energy burden is defined as energy costs exceeding 11 percent of income and severe home energy burden as heating and cooling costs exceeding 4 percent of income.[viii]

Figure 2 illustrates that 12 million households with income below the federal maximum eligibility standard of 60 percent of state median income or 150 percent of the federal poverty level have severe home heating and cooling burdens.



Source: 2001 Residential Energy Consumption Survey

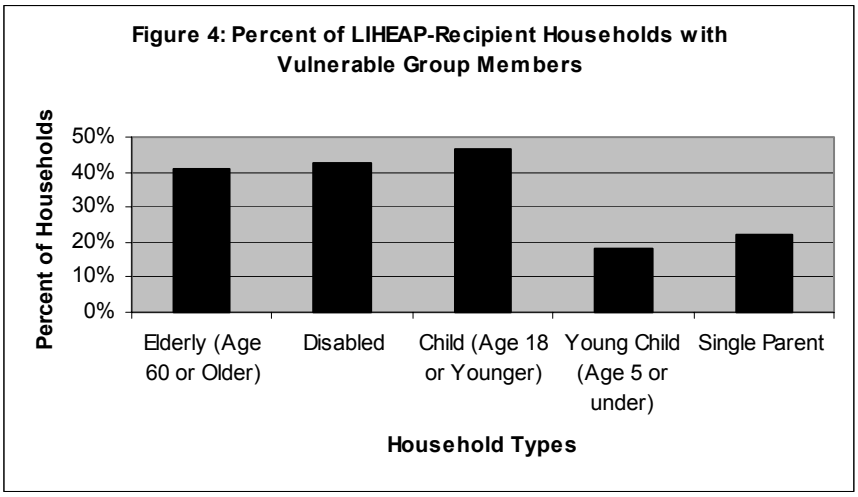
Figure 3 displays the level of energy burden both prior to subtracting LIHEAP benefits from energy costs (pre-LIHEAP), and after subtracting LIHEAP benefits (post-LIHEAP). Figure 3 shows that 91 percent of LIHEAP recipients have pre-LIHEAP total residential energy burdens above 5 percent, and 20 percent above 20 percent. After accounting for LIHEAP benefits, the proportion of households that fall into the lowest energy burden interval (of 0-5%) increases from 9 percent to 27 percent. LIHEAP benefits reduce the proportion of households with total residential energy burden above 15 percent from 38 percent to 19 percent.



Source: 2003 National Energy Assistance Survey

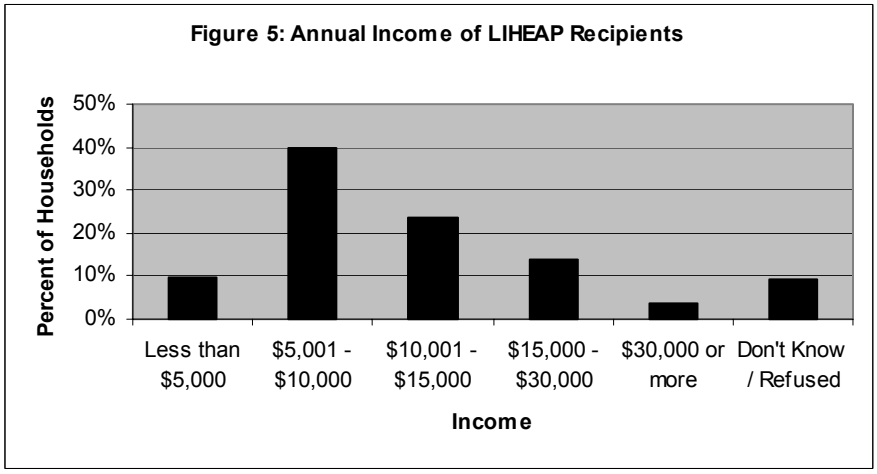
LIHEAP Recipients

Figure 4 presents the percentage of LIHEAP recipients with one or more household members particularly vulnerable to unaffordable energy bills. Forty-one percent reported that they have one or more household members age 60 or older, 43 percent have one or more disabled household members, 47 percent have one or more children age 18 or younger, 18 percent have one or more young children age 5 or younger, and 22 percent are single parent households.



Source: 2003 National Energy Assistance Survey

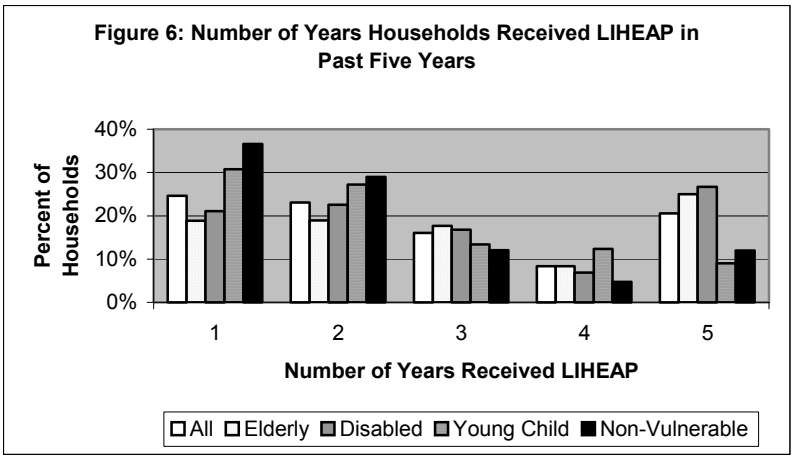
Respondents were asked for their annual household income. Figure 5 shows that 50 percent reported an annual income at or below $10,000 per year and 74 percent reported an annual income at or below $15,000.[ix]



Source: 2003 National Energy Assistance Survey

Respondents were asked how many times in the past five years they received LIHEAP benefits. Figure 6 shows that 25 percent reported that they received LIHEAP only once, and 21 percent

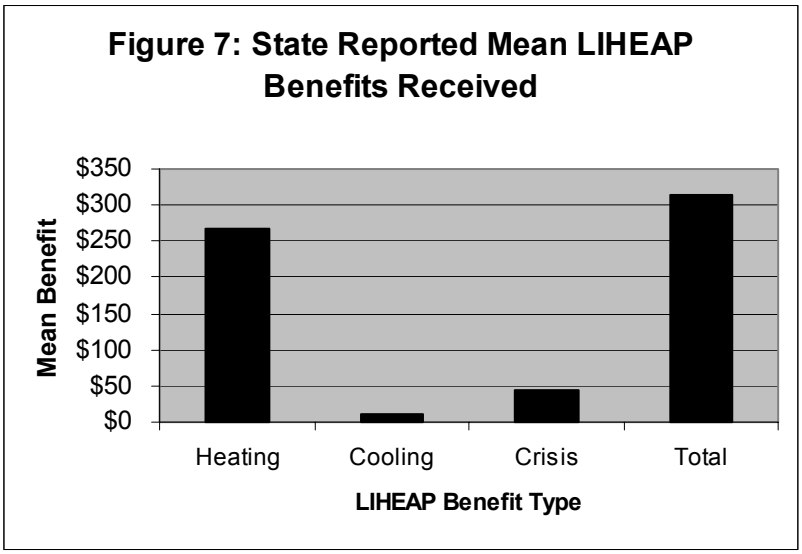
reported that they received LIHEAP five times in the past five years. Approximately 25 percent of households with an elderly person and 27 percent of households with a disabled person have received LIHEAP five times in five years, compared to 12 percent for non-vulnerable (i.e., households with no residents that are elderly, disabled, or children) households and 9 percent for LIHEAP-recipient households with children age 5 or younger.



Source: 2003 National Energy Assistance Survey

States were asked to provide data on the amount of heating, cooling, and crisis benefits received by each household. All twenty states included in the survey provided data for nearly all (2,132 of 2,161) of the respondents.

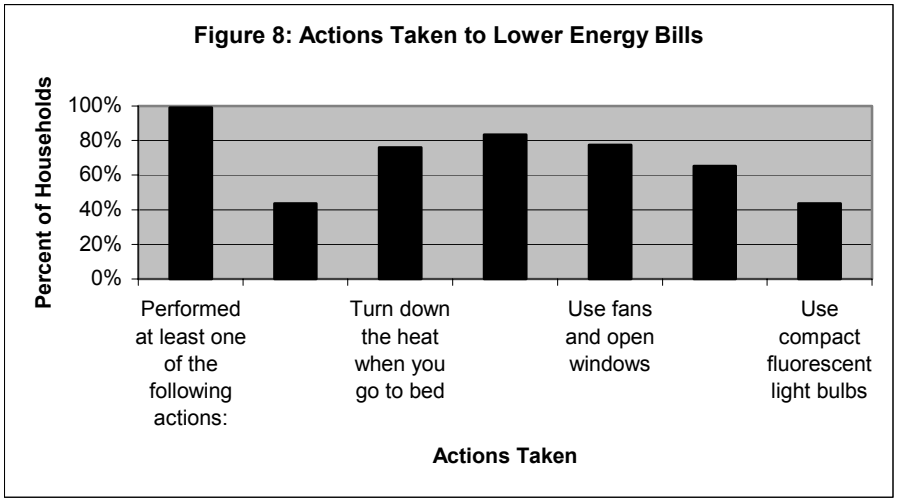
Figure 7 shows that the total average LIHEAP award was $313 in FY 2003. The average LIHEAP grant was $267 for heating, $10 for cooling, and $45 for crisis. Most LIHEAP recipients received heating assistance, but only a small minority received cooling assistance.[x]



Source: 2003 State LIHEAP office data

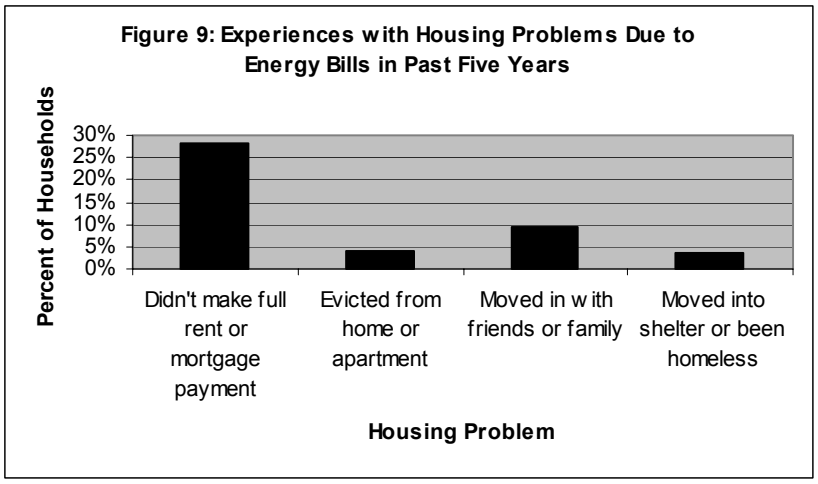
Constraints, Hardships, and Unsafe Practices

Respondents were asked whether they took specific actions in FY 2003 to bring down their total residential energy costs. Figure 8 illustrates that nearly all LIHEAP recipients took constructive actions to lower their energy bills. Forty-four percent of LIHEAP recipients said that they put plastic on their windows and 76 percent said they turned down the heat when they went to bed. Eighty-three percent said they kept shades and curtains closed during the daytime in the summer and 78 percent said they used fans and opened windows. Sixty-five percent said they washed clothes in cold water and 44 percent said they used compact fluorescent light bulbs.



Source: 2003 National Energy Assistance Survey
Note: These responses may be overestimated due to respondent compliance (i.e., desire to provide a socially desirable or positive response).

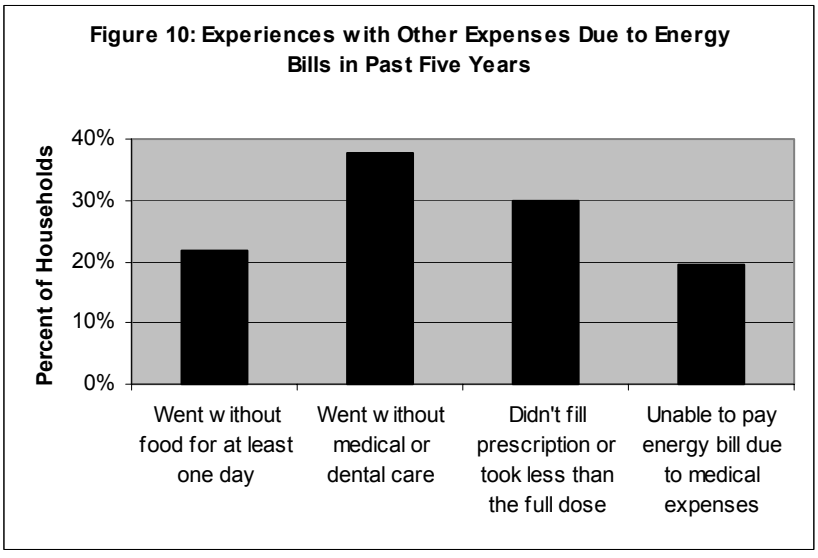
Respondents were asked whether they encountered specific housing problems over the past five years due in part to their total residential energy expenses. Figure 9 shows that 28 percent of respondents reported not making a full rent or mortgage payment, 9 percent reported that they moved in with friends or family, 4 percent said they were evicted from their home or apartment, and 4 percent were homeless at some point during the last five years.



Source: 2003 National Energy Assistance Survey

Health: Tough Choices and Health Problems

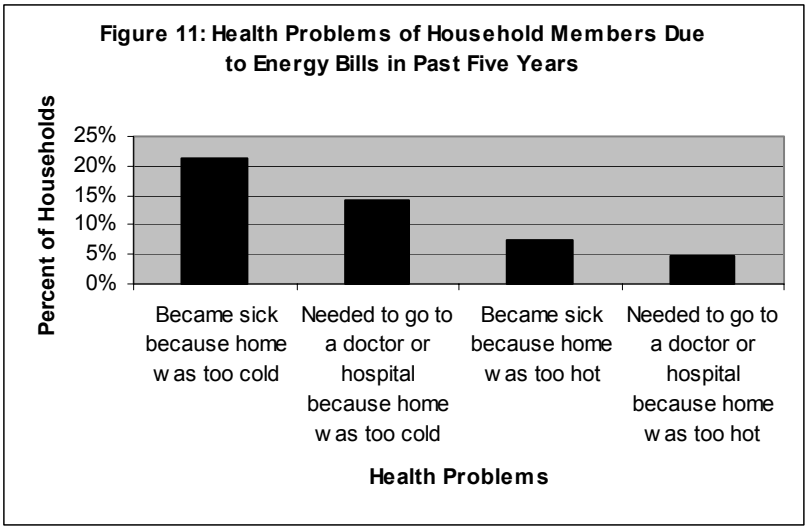
Respondents were asked whether they went without food, medical care, or medicine in the past five years due in part to their total residential energy expenses. Figure 10 shows that 22 percent of LIHEAP recipients reported that they went without food for at least one day, 38 percent said they went without medical care, 30 percent said they didn't fill a prescription or took less than the full dose of a prescribed medicine, and 20 percent said they were unable to pay their energy bill due to medical expenses.



Source: 2003 National Energy Assistance Survey

Respondents were asked whether they suffered illness in the past five years because their homes were too hot or too cold. Figure 11 shows that 21 percent of LIHEAP recipients reported that

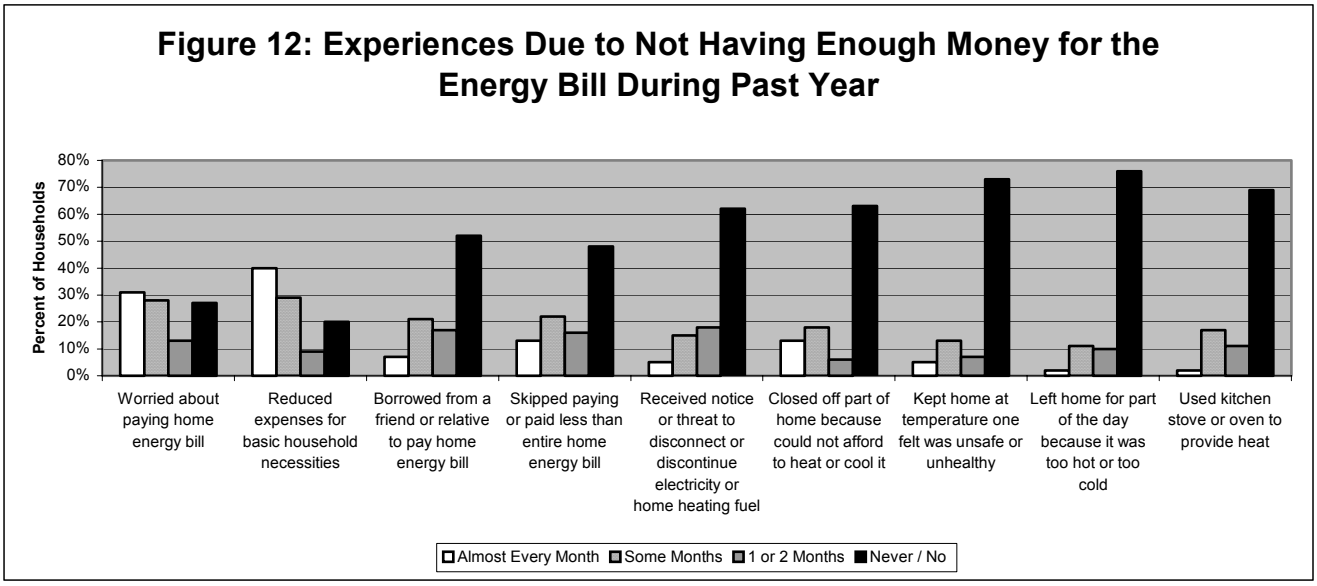
someone in their household became sick because their home was too cold, and 14 percent reported that someone in the household needed to go to the doctor or hospital due to an illness. Seven percent of LIHEAP recipients reported that someone in their household became sick because their home was too hot, and 5 percent reported that an illness resulted in a doctor or hospital visit.



Source: 2003 National Energy Assistance Survey

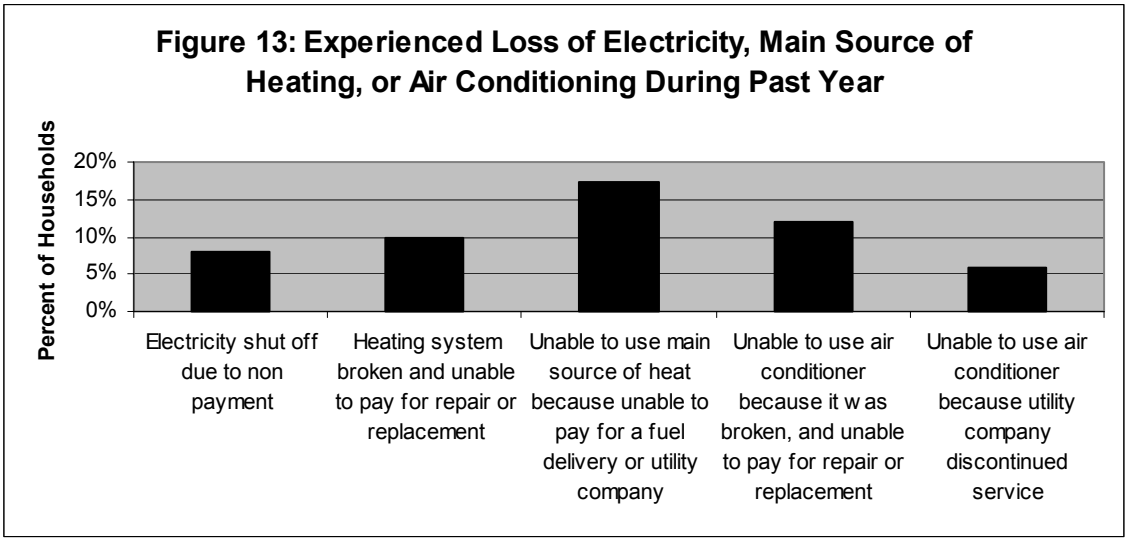
Energy Insecurity

Respondents were asked to report the frequency of actions or experiences in FY 2003 that could be considered indicators of energy insecurity. As shown in Figure 12, 72 percent of LIHEAP recipients worried in FY 2003 about their ability to pay the home energy bill. Seventy-eight percent said that they reduced expenses on basic household necessities. Fifty-one percent skipped paying or paid less than their entire home energy bill. Thirty percent reported that they used their kitchen stove for heat.



Source: 2003 National Energy Assistance Survey

Figure 13 displays whether the respondent reported a loss of electricity, heating, or air conditioning. Eight percent of LIHEAP recipients reported not being able to use their main source of heat in FY 2003 because their electricity was shut off due to nonpayment, 10 percent said their heating system broke and they were unable to pay for a repair or replacement, and 17 percent said they couldn't use their main source of heat because they were unable to pay for a bulk fuel delivery or the utility company discontinued their energy service. Twelve percent of LIHEAP recipients reported not being able to use their air conditioner because it was broken and they were unable to pay for a repair or replacement, and 6 percent reported not being able to use their air conditioner because the utility company discontinued their service.

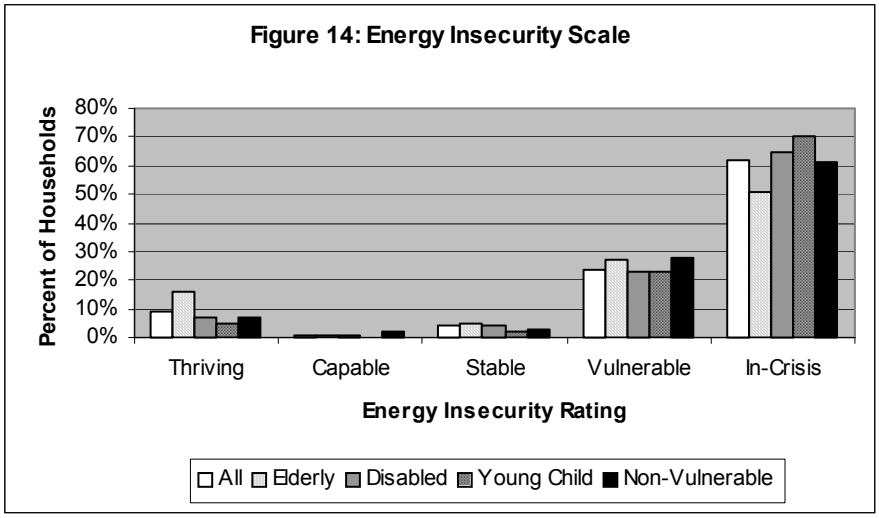


Source: 2003 National Energy Assistance Survey

Figure 14 presents a scale that classifies LIHEAP recipients based on their level of home energy insecurity. The scale, constructed from some of the previously described NEA survey questions, is a modified version of the home energy insecurity scale developed in Roger Colton's paper, "Measuring the Outcomes of Low-Income Energy Assistance Programs Through A Home Energy Insecurity Scale." [xi]

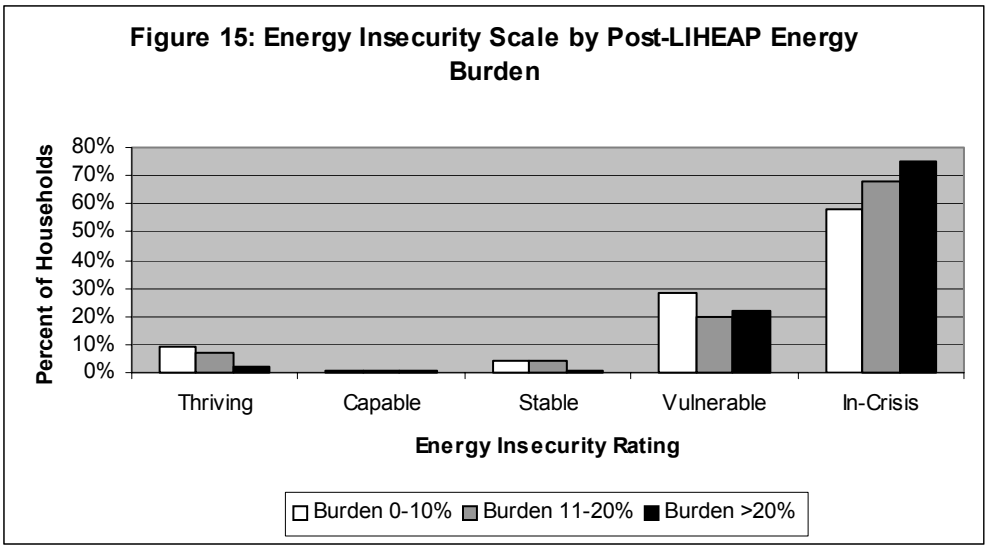
The scale classifies respondents as thriving, capable, stable, vulnerable or in-crisis, based on how they answered the questions previously described in Figures 12 and 13. Each threshold serves as a measured stage of a household's energy insecurity status at a point in time. An in-crisis household suffers a loss in energy service, regularly foregoes basic household necessities to pay its energy bill, regularly constrains energy use to unsafe or unhealthy levels, or regularly practices unsafe or dangerous alternative heating techniques.

Figure 14 shows that 62 percent of LIHEAP recipients are classified as being in-crisis. Elderly households are least likely to be in-crisis and households with young children are most likely to be in-crisis. While research has shown that the elderly are more likely to pay their bills and less likely to be shut off, there is also evidence that they are less likely to admit they have problems meeting their needs.



Source: 2003 National Energy Assistance Survey

Figure 15 displays the relationship between total residential energy burden and the energy insecurity rating. Households with the highest total residential energy burdens are most likely to be in-crisis. Approximately 75 percent of respondents with a post-LIHEAP total residential energy burden of more than 20 percent are in-crisis, compared to 58 percent of respondents with a post-LIHEAP total residential energy burden of less than 11 percent.



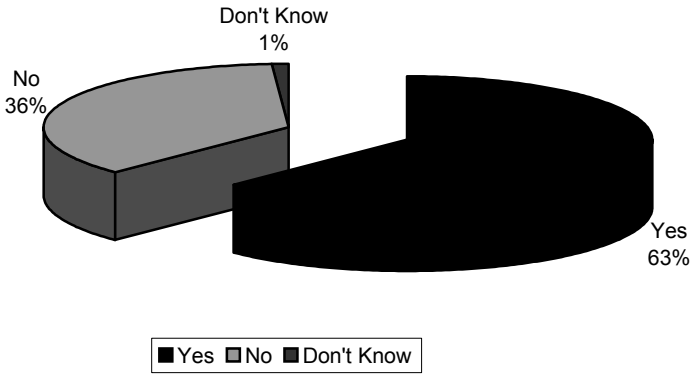
Source: 2003 National Energy Assistance Survey

Importance of LIHEAP

LIHEAP benefits are often quite small, averaging only $313 in FY 2003. Therefore, researchers sometimes question the level of impact these benefits can have. One of the benefits of this study is that it provides new evidence on the importance of LIHEAP for recipient households. In this study, respondents were asked to assess the impact that LIHEAP had on their circumstances and whether they would have faced certain problems if LIHEAP had not been available.

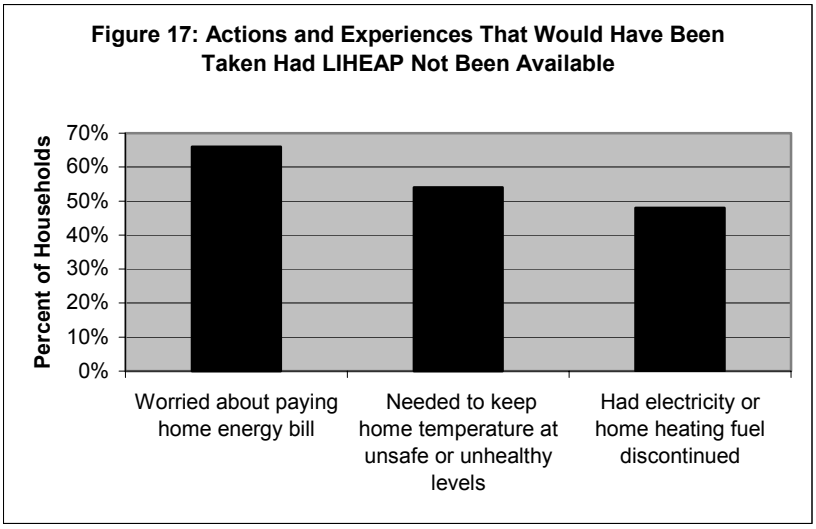
Respondents were asked whether they were unable to use their main source of heat in FY 2003 because they were unable to pay to repair or replace a broken heating system, unable to pay for fuel, or unable to pay to restore disconnected or discontinued energy service. Seventeen percent of respondents experienced a payment-related loss of heat and were asked whether LIHEAP helped restore their main source of heat. Figure 16 shows that 63 percent of these respondents reported that LIHEAP helped to restore use of their main source of heat.

Figure 16: Percent of Households That Experienced Discontinued Energy Service in the Past Year and Reported That LIHEAP Helped Restore Heat



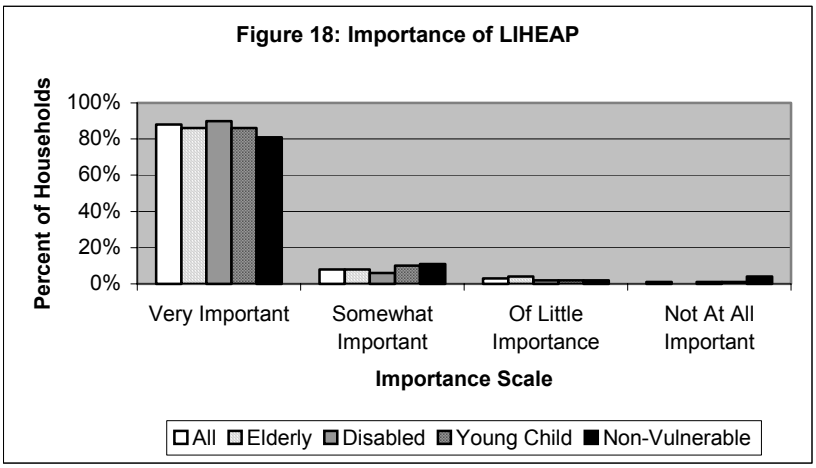
Source: 2003 National Energy Assistance Survey
Figure 16 reports on 17 percent (373 of 2,161) of LIHEAP-recipient respondents that reported being unable to use their main source of heat because they were unable to pay for a bulk fuel delivery or their utility was disconnected due to nonpayment.

Respondents who reported that they did not encounter some of the energy insecurity problems described in the previous subsection were asked whether they believe they would have faced these problems if LIHEAP assistance had not been available. Figure 17 shows that 66 percent reported that they would have worried about paying their home energy bill if LIHEAP had not been available. Fifty-four percent said they would have needed to keep their home at an unsafe or unhealthy temperature had LIHEAP not been available. Forty-eight percent said they would have had their energy service disconnected or discontinued during a time when they needed it to heat or cool their home if LIHEAP had not been available.



Source: 2003 National Energy Assistance Survey

Respondents who reported that they received LIHEAP were asked, "How important has LIHEAP been in helping you to meet your needs?" Figure 18 shows that 88 percent of LIHEAP recipients said that LIHEAP was very important in helping them meet their needs and 8 percent said it was somewhat important.



Source: 2003 National Energy Assistance Survey

Footnotes

[i] 2003 National Energy Assistance (NEA) Survey.
[ii] 2001 Residential Energy Consumption Survey (RECS). Database available from the Energy Information Administration (EIA), a statistical agency of the U.S. Department of Energy (DOE).
[iii] Bulk fuel respondents are defined as LIHEAP-recipient households who reported bottled or tank gas (e.g., LPG or propane), fuel oil, kerosene, etc. as the fuel most used for heating their home. Utility service respondents are defined as LIHEAP-recipient households who reported natural gas or electricity as the fuel most used for heating their home.
[iv] The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report will address total residential energy costs.
[v] The Federal maximum LIHEAP standard is 150 percent of poverty or 60 percent of state median income. Many states limit eligibility to households with income below lower limits.
[vi] 2001 Residential Energy Consumption Survey (RECS).
[vii] 2001 RECS.
[viii] Some researchers have defined severe shelter burden as shelter costs at or greater than 50 percent of income (See Cushing N. Dolbeare. 2001. "Housing Affordability: Challenge and Context." Cityscape: A Journal of Policy Development and Research, (5)2:111-130. A Publication of the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.) The severe shelter burden definition is used in this study as a guide to define severe total residential energy burden. The median total residential energy costs for households with income below 150 percent of poverty are 21.8 percent of shelter costs. If shelter costs are 50 percent of income, then these total residential energy costs represent 10.9 percent of income. Therefore severe total residential energy burden is defined as total residential energy costs that exceed 10.9 percent of income (Calculation: .218 x .50 = .109). Severe home heating and cooling energy burden is defined as the percentage of income spent on home heating and cooling that would be excessive for low-income households. The 2001 RECS shows that heating and cooling energy expenses comprise 39.3 percent of total residential energy expenditures. Therefore, severe home heating and cooling energy burden is defined as heating and cooling costs that exceed 4.3 percent of income (Calculation: .39 x .218 x.50 = .043).
[ix] Table 14 shows that 70 percent of LIHEAP recipients have incomes below 100 percent of poverty.
[x] Table 34 shows that 2.6 percent (56 of 2,132) of LIHEAP recipients received cooling benefits, 11.5 percent (245 of 2,132) received crisis benefits, and 95.8 percent (1,959 of 2,132) received heating benefits. The mean LIHEAP benefits received are averages over all recipients in the states where those benefits were offered. The average cooling benefit among only those who received a cooling benefit was $147 and the average crisis benefit among only those who received a crisis benefit was $264.
[xi] Roger Colton. July 2003. "Measuring the Outcomes of Low-Income Energy Assistance Programs Through A Home Energy Insecurity Scale." A Publication Prepared for: LIHEAP Committee on Managing for Results. U.S. Department of Health and Human Services. Administration for Children and Families. Office of Community Services, Division of Energy Assistance.